AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Original) A method of merging a first data stream with a second data stream to generate a third data stream, comprising:

    a) receiving a first packet from the first data stream, the first packet containing a first packet ID and a first data payload;

    b) receiving a second packet from the second data stream, the second packet containing a second packet ID and a second data payload;

    c) storing first data in a plurality of packet ID arrival registers, a first portion of the first data indicating that the first packet ID is equal to the ID associated with a first of the plurality of the packet ID arrival registers, a second portion of the first data indicating that the first packet ID is not equal to the ID associated with a second of the plurality of the packet ID arrival registers;

    d) storing second data in the plurality of packet ID arrival registers, a first portion of the second data indicating that the second packet ID is equal to the ID associated with the second of the plurality of the packet ID arrival registers, a second portion of the second data indicating that the second packet ID is not equal to the ID associated with the first of the plurality of the packet ID arrival registers;

    e) calculating a first autocorrelation vector;

    f) calculating a second autocorrelation vector; and

g) based at least in part upon a comparison of the magnitude of the first autocorrelation vector and the magnitude of the second autocorrelation vector, including the first packet in the third data stream.

2. (Original) The method of claim 1, wherein the act of receiving a first packet includes receiving the first packet from an HT I/O device.

3. (Original) The method of claim 1, wherein the act of receiving a first packet includes receiving the first packet from an HT I/O device and the act of receiving a second packet includes receiving the second packet from an HT I/O device.

4. (Original) The method of claim 1, wherein the act of storing first data in a plurality of packet ID arrival registers includes storing a "1" in the first packet ID arrival register.

5. (Original) The method of claim 1, wherein the act of storing first data in a plurality of packet ID arrival registers includes storing a "0" in the second packet ID arrival register.

6. (Original) The method of claim 1 wherein the act of calculating an autocorrelation vector includes calculating a biased autocorrelation vector.

7. (Original) The method of claim 1 wherein the act of calculating an autocorrelation vector includes calculating an unbiased autocorrelation vector.

8. (Original) The method of claim 1, wherein the act of calculating the first autocorrelation vector is performed by a HyperTransport I/O device.

9. (Original) The method of claim 1, wherein the act of calculating the first autocorrelation vector is performed by a HyperTransport I/O switch.

10. (Original) The method of claim 1, wherein the act of calculating the first autocorrelation vector includes calculating the following equation:

$$Rxx(T) = \frac{1}{N-T} \sum_{n=0}^{N-1} x(n)x(n+T)$$

where T and N are integers, and x is an array that includes data stored in one of the plurality of packet ID arrival registers.

11. (Original) The method of claim 1, wherein the act of receiving the first packet includes receiving the first packet from a second HT I/O device and the act of receiving the second packet includes receiving the second packet from a third HT I/O device.

12. (Original) The method of claim 1, wherein the act of receiving the first packet includes receiving the first packet from an internal port within the HT I/O device and the act of receiving the second packet includes receiving the second packet from a second HT I/O device.

13. (Original) The method of claim 1, wherein the act of calculating the first autocorrelation vector includes copying the data in the first packet ID arrival register, shifting the copied data by T elements, where T is an integer, the result being referred to as shifted data.

14. (Original) The method of claim 13 further including multiplying the shifted data with the data in the first packet ID arrival register.

15. (Currently Amended) A method, performed by an HT I/O device, of storing a first packet in a first buffer and storing a second packet in a second buffer, the method comprising:

    a) receiving, by the HT I/O device, a first packet from a first data stream, the first packet containing a first packet ID and a first data payload;

    b) receiving, by the HT I/O device, a second packet from the second data stream, the second packet containing a second packet ID and a second data payload;

    c) storing, by the HT I/O device, the first packet in a first buffer, the first buffer associated with a buffer ID that is equal to the first packet ID; and

    d) storing, by the HT I/O device, the second packet in a second buffer, the second buffer associated with a buffer ID that is equal to the second packet ID.

16. (Original)

    e) calculating an autocorrelation vector.

17. (Original) The method of claim 16 further comprising selecting the first packet based upon the autocorrelation vector and passing the first packet to an output port.

18. (Original) The method of claim 15 wherein the act of storing the first packet in the first buffer includes storing the first packet in a buffer that is associated with a buffer ID that is equal to the first packet ID.

19. (Original) A method of storing first data and second data comprising:

   a. receiving a first packet from a first data stream, the first packet containing a first packet ID and a first data payload;

   b. receiving a second packet from a second data stream, the second packet containing a second packet ID and a second data payload;

   c. storing first data in a plurality of registers, a first portion of the first data indicating that the first packet ID is equal to the ID associated with a first of the plurality of registers, a second portion of the first data indicating that the first packet ID is not equal to the ID associated with a second of the plurality of the registers; and

   d. storing second data in the plurality of registers, a first portion of the second data indicating that the second packet ID is equal to the ID associated with the second of the plurality of the registers, a second portion of the second data indicating that the second packet ID is not equal to the ID associated with the first of the plurality of the registers.

20. (Original) The method of claim 19, wherein the act of receiving a first packet includes receiving the first packet from an HT I/O device.

21. (Original) The method of claim 19, wherein the act of receiving a first packet includes receiving the first packet from an HT I/O device and the act of receiving a second packet includes receiving the second packet from an HT I/O device.

22. (Original) The method of claim 19, wherein the act of storing first data in a plurality of packet ID arrival registers includes storing a "1" in the first packet ID arrival register.

23. (Original) The method of claim 19, wherein the act of storing first data in a plurality of packet ID arrival registers includes storing a "0" in the second packet ID arrival register.